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i2 SUMMIT

DOES ORAL BETA-BLOCKER THERAPY IMPROVE LONG-TERM CLINICAL OUTCOMES OF ST-ELEVATION ACUTE MYOCARDIAL INFARCTION AFTER PRIMARY ANGIOPLASTY?

i2 Poster Contributions
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Background: Randomized clinical trials have demonstrated that beta-blocker therapy is effective in reducing mortality after ST-elevation acute myocardial infarction (STEMI), however, many of these studies excluded patients who undergo primary percutaneous coronary intervention (PCI).

Methods: Using data from the j-Cypher registry, we analyzed clinical, angiographic, and outcomes data in 910 patients who underwent primary PCI within 24 hours from onset of STEMI and survived the index hospitalization. We classified patients into beta group (those who received beta-blockers at discharge [n = 349]) and no-beta group (n = 561). We compared all-cause mortality and major adverse cardiac events (MACE) (all-cause death, reinfarction, and heart failure admission) at 2 years between groups receiving and not receiving beta-blockers.

Results: No difference was observed between patients in beta group and those in no-beta group in 2-year mortality (6.6% vs. 6.6%, p = 0.99) and MACE (14.6% vs. 12.5%, p = 0. 36). The protective effect of beta-blocker therapy was seen in patients with left ventricular ejection fraction (LVEF) ≤ 40% (death: 6.4% vs. 17.4%, p = 0.039; MACE: 14.5% vs. 31.7%, p = 0.009), but not in those with LVEF >40% (death: 6.0% vs. 3.1%, p = 0.15; MACE: 14.7% vs. 8.3%, p = 0.031). Multivariate Cox proportional hazard model identified age ≥80 years (hazard ratio [HR] 2.44, 0, 95% CI 0.27 to 1.51, p = 0.0053), chronic kidney disease (HR 3.93, 95% CI 0.56 to 2.09, p = 0.0015), and history of heart failure (HR 2.48, 95% CI 0.33 to 1.47, p = 0.0026) as independent predictors of all-cause mortality. Independent predictors of MACE included age ≥80 years (HR 2.15, 95% CI 0.29 to 1.22, p = 0.0017), chronic kidney disease (HR 2.52, 95% CI 0.28 to 1.50, p = 0.0065), and history of heart failure (HR 2.89, 95% CI 0.65 to 1.47, p < 0.0001).

Conclusion: Beta-blocker therapy at discharge did not improve 2-year clinical outcomes in patients with STEMI who underwent PCI within 24 hours from onset and preserved LVEF. Significant reduction in mortality and MACE was observed in patients with a low LVEF.